St Cuthbert Mayne School Curriculum Map 2023-2024

Year 8

Department: COMPUTING

At STCM, the Computing curriculum has been designed to be exciting, creative and dynamic, meeting the needs of all our students so they acquire skills for future learning & employment in an ever-changing world. The topic range is diverse, enabling each student to explore and find their own forte in computing. We have divided the curriculum into three strands, computer science, digital creativity and IT, each strand provides students with a different skill set and knowledge of career paths they could take.

Computer Science: Introduction to HTML language building a website, My digital world the do's and don'ts, Data representation using Binary and Introduction to Python programming.

Digital Creativity: Graphic design using Adobe Photoshop. Animation using Blender

IT: Advanced MS Excel

Autumn Term		
Topic/Unit	**Introduction to HTML Coding**	**Animation using Blender**
Knowledge (Content covered)	Introduction to HTML programming. Students will learn the basic tags needed to build a simple webpage, which includes text, images and hyperlinks. Basic Tags • Heading • Horizontal Rule • Paragraphs • Fonts • Body (and it's properties) • Images • Hyperlinks	Films, television, computer games, advertising, and architecture have been revolutionised by computer-based 3D modelling and animation. In this unit students will discover how professionals create 3D animations using the industry-standard software package, Blender. By completing this unit students will gain a greater understanding of how this important creative field is used to make the media products that we consume. Lessons will take students through the basics of modelling, texturing, and animating; outputs will include 3D models, short videos, and VR. Links are made throughout to computer science, computational thinking, and the world of work. Tools and techniques learnt in this unit can also be used for 3D printing.
Skills	Computer science programming, computational thinking	Computer Science, computational thinking, creative design
Assessment	Formal assessment Teacher assessment	Formal assessment Teacher assessment
Gatsby 4 (Linking curriculum learning to careers) GATSBY BENCHMARK 4	Software tester, Web developer, Software engineer Teacher	3D animator, Graphic designer, Video game designer

Spring Term		
Topic/Unit	**My Digital World**	**Binary Bits and Bobs**
Knowledge (Content covered)	My Digital world explores online issues and forms part of our students digital literacy curriculum. Content taught • Website Reliability and Quality of Sources of Information • Safe & Effective Searching • Copyright Issues • Online Dangers • Strategies to Stay Safe	This unit introduces students to the Binary Number System and teaches them how binary is used to represent text, images and sound: • Binary – Denary Conversions • Binary Addition • Binary Representation of Text • Binary Representation of Images • Binary Representation of Sound
Skills	Digital literacy	Computer science programming, computational thinking
Assessment	Formal assessment Teacher assessment	Formal assessment Teacher assessment
Gatsby 4 (Linking curriculum learning to careers) GATSBY BENCHMARK 4	Cyber security Police Teacher	Data scientist. Software tester. Web developer. Systems analyst. Business analyst. Product manager. Network architect. Software engineer. Teacher

Summer Term		
Topic/Unit	**Introduction to Python**	**Introduction to Creative iMedia Graphics**
Knowledge (Content covered)	This unit introduces students to text-based programming with Python. The lessons form a journey that starts with simple programs involving input and output, and gradually moves on through arithmetic operations, randomness, selection, and iteration. Introduction to Python teaches the fundamentals of programming: • Outputs • Inputs and Variable Storage • IF Statements • Data types and arithmetic • Problem Solving (Abstraction and Decomposition) Tasks	This unit will introduce students to the Creative iMedia GCSE. During this unit students will learn how to use Photopea to produce a digital graphic for a set scenario. Students will create detailed sketches of their concept and then produce a digital image of their concept. This unit will provide students with the necessary skills and understanding to progress on to the Creative iMedia GCSE course.
Skills	Computer Science Problem solving	Creative IT and Digital Literacy
Assessment	Low stakes testing Teacher assessment	Peer and Teacher assessment
Gatsby 4 (Linking curriculum learning to careers) GATSBY BENCHMARK 4	Data scientist. Software tester. Web developer. Systems analyst. Business analyst. Product manager. Network architect. Software engineer. Teacher	Graphic designer Website designer